

WHAT IS CLAIMED IS:

1. A wide-angle lens comprising, from an object side to an image plane side:
 - a first lens group comprising:
 - a first lens having a negative refractive power, and
 - a second lens having a positive refractive power; and
 - a second lens group comprising:
 - a third lens having a negative refractive power,
 - a fourth lens having a positive refractive power, said fourth lens being bonded to said third lens, and
 - a fifth lens having a positive refractive power, said fifth lens comprising a first convex surface oriented to said object side and a second convex surface oriented to said image plane side, at least one of said convex surfaces being an aspherical surface;

wherein:

$$(1) 0.7 |R6| < |R8| < 1.3 |R6|$$

$$(2) v1 > v2, v3 < v4, v5 > 50$$

$$(3) |f1| > 2 f2$$

$$(4) 2.5 f22 > f21 > f22,$$

where $R6$ is a curvature radius of an object-side surface of said third lens;

$R8$ is a curvature radius of an image plane-side surface of said fourth lens;

v_i is an Abbe number of an i -th lens ($i=1-5$);

$f1$ is a composite focal length of said first lens group;

$f2$ is a composite focal length of said second lens group;

$f21$ is a composite focal length of said third and said fourth lenses in said second lens

23 group;

24 f_{22} is a focal length of said fifth lens in said second lens group.

1 2. A wide-angle lens comprising, from an object side to an image plane side:

2 a first lens group comprising:

3 a first lens having a negative refractive power, and

4 a second lens having a positive refractive power; and

5 a second lens group comprising:

6 a third lens having a negative refractive power,

7 a fourth lens having a positive refractive power, said fourth lens being bonded to
8 said third lens, and

9 a fifth lens having a positive refractive power, said fifth lens comprising a first
10 convex surface oriented to said object side and a second convex surface oriented to said
11 image plane side, both of said convex surfaces being aspherical surfaces;

12 wherein:

13 (1) $0.7 |R_6| < |R_8| < 1.3 |R_6|$

14 (2) $v_1 > v_2$, $v_3 < v_4$, $v_5 > 50$

15 (3) $f_1 > 4 f_2$

16 (4) $2.5 f_{22} > f_{21} > f_{22}$,

17 where R_6 is a curvature radius of an object-side surface of said third lens;

18 R_8 is a curvature radius of an image plane-side surface of said fourth lens;

19 v_i is an Abbe number of an i -th lens ($i = 1 - 5$);

20 f_1 is a composite focal length of said first lens group;

21 f_2 is a composite focal length of said second lens group;

22 f21 is a composite focal length of said third and said fourth lenses in said second lens
23 group;

24 f22 is a focal length of said fifth lens in said second lens group.

1 3. The wide-angle lens as described in claim 1, further comprising:
2 a glass filter oriented to said image plane side of said fifth lens.

1 4. The wide-angle lens as described in claim 3; wherein:
2 (1) $v_6 > v_5$
3 where v_6 is an Abbe number of said glass filter.

1 5. The wide-angle lens as described in claim 3, wherein said glass filter is selected from
2 the group comprising an infrared cut filter and a low-pass filter.

1 6. The wide-angle lens as described in claim 1, further comprising:
2 an aperture stop disposed between said second lens and said third lens.

1 7. The wide-angle lens as described in claim 1, further comprising:
2 a total lens length of less than or equal to 12mm.

1 8. The wide-angle lens as described in claim 1, further comprising:
2 a back focus of greater than or equal to 5mm.

1 9. The wide-angle lens as described in claim 1, further comprising:

- 19 v_6 is an Abbe number of said glass filter;
- 20 f_1 is a composite focal length of said first lens group;
- 21 f_2 is a composite focal length of said second lens group;
- 22 f_{21} is a composite focal length of said third and said fourth lenses in said second lens
- 23 group;
- 24 f_{22} is a focal length of said fifth lens in said second lens group.